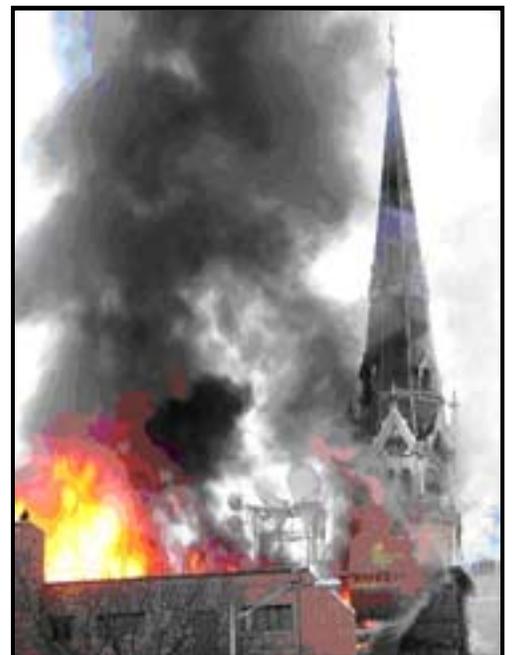




2004

WISCONSIN

BURNING





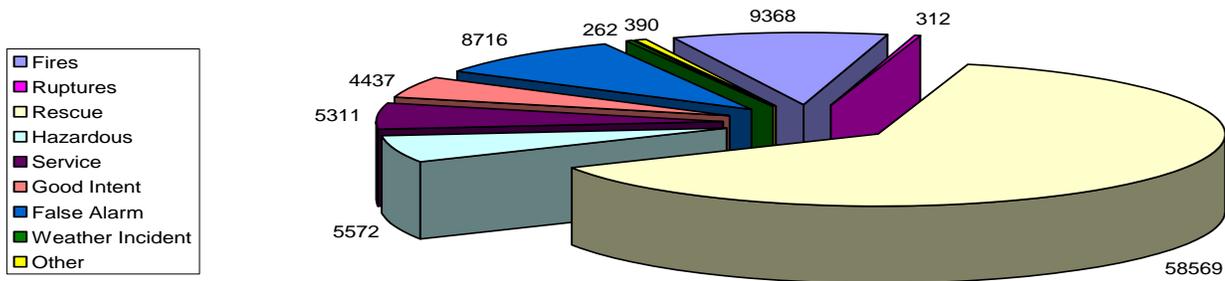
INCIDENTS IN WISCONSIN



Wisconsin fire departments reported a total of 92,937 incidents for 2004. Among this total were 9,368 fire incidents, 8,716 false alarms, 5,311 calls for other service, and 58,569 rescue calls.

The following pages will examine some of the 34,368 incidents classified as fire calls. Some limited data will also be examined of the fire department responses reported in 2004 that were EMS or rescue calls.

Incident Type Reported



Types of Calls	Total
Fires	9368
Ruptures	312
Rescue	58569
Hazardous	5572
Service	5311
Good Intent	4437
False Alarm	8716
Weather Incident	262
Other	390
Grand Total	92937



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The Wisconsin Department of Commerce Fire Prevention Section is pleased to present to you the report "2004 Wisconsin Burning." The intent of this report is to compile the reported data on fire department incidents and to use this data to plan for improved public safety for the people of Wisconsin.

The way Wisconsin collects this data has changed in the past several years; almost all of the data now received is submitted electronically using NFIRS (National Fire Incident System), a national format that allows for a more detailed and customized analysis.

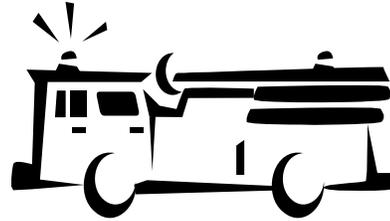
The data collected on fire department incidents in Wisconsin is used to development this report. In addition, this data also contributes nationwide to help understand and identify challenges facing the fire service and what resources we will need to meet those challenges.

We have 863 fire departments in Wisconsin, of which 478 departments reported to NFIRS for 2004. Incident reporting provides essential information about fires, their causes and consequences, as well as descriptive data about other types of emergency services that fire departments provide to their communities.

Wisconsin data can help communities improve their fire protection systems, while assisting fire departments in devising better ways to provide service. This data can also be used to improve fire and building codes, impact consumer product safety, and measure the effectiveness of public fire safety education in Wisconsin. As we track data across the years, we can recognize trends and determine if the fire problem in Wisconsin is improving or growing larger.

We hope that this information will be useful to fire departments, elected officials, and the general public as a planning tool for meeting the future needs of the fire service and fire safety in our state.

FIRE SERVICE FACTS



Using data collected by the United States Fire Administration on fire departments in the State of Wisconsin the following information has been gathered.

In 2004 there were 863 fire departments in Wisconsin.

- 701 volunteer departments
- 105 combination departments (at least one full time person plus volunteers)
- 35 career departments
- 21 tribal, federal, private departments
- 1 department providing inspection services only

There are more than 30,000 firefighters working in approximately 1,055 fire stations throughout the state.

- 17,365 volunteer firefighters
- 9,154 paid-on-call firefighters
- 4,585 career firefighters

An additional 1,830 civilians work with fire departments in a variety of support positions.

The 2004 Wisconsin Burning contains information on the total number of incidents reported by participating fire departments. In 2004, a total of 478 fire departments reported incident data to the state Department of Commerce. This is an increase over 2003 of over 230 fire departments. A list of our fire departments' reporting statuses for 2003 and 2004 is included at the end of this report.

Fortunately, there were no firefighters deaths reported for 2004!

INCIDENT REPORTING INFORMATION

The 2004 edition of Wisconsin Burning contains information on the total number of incidents reported by participating fire departments. In 2004 a total of 478 fire departments reported incident data to the Department of Commerce. This is an increase from 2003 of over 230 fire departments. A list of fire departments indicating their reporting status for 2003 and 2004 is included at the end of this report.

Wisconsin Statute 101.141 requires the Department of Commerce to keep records of all fires occurring in the state.

101.141 Record keeping of fires. The department shall maintain records of all fires occurring in this state. Such records shall be open to public inspection during normal business hours.

In addition, Commerce 14, Fire Prevention Code requires fire departments to report fires in accordance with 14.47(3), (5)c

14.47(3) Fire Incident Reports. Each fire chief shall submit written fire incident reports to the department no later than April 1 for the previous year. The reports shall contain at least the information specified in sub. (5).

14.47(5) Record Keeping. The following records shall be generated and maintained by each fire department.

(c) Time, date and location of fires and number of firefighters responding to each fire.

The importance of accurately reporting all fires is recognized by the fire service, the Department of Commerce, and the United States Fire Administration. Fire departments must report all incidents to the National Fire Incident Reporting System (NFIRS) to be eligible for fire grants from the federal government. Failure to report may also disqualify members from attending training at the National Fire Academy.

Currently, Wisconsin fire departments are reporting fire incident data using one of three methods; electronically direct to the NFIRS database, by disk to Commerce, or on paper forms provided by the Commerce.

STATISTICAL DISCLAIMER

As you read 2004 Wisconsin Burning we expect that you will question the completeness and descriptive value of the numbers reported. The data contains only that information supplied by the reporting fire departments. Incident information submitted on paper forms to Commerce does not always translate into useable data once it enters the NFIRS reporting system. The NFIRS system requires a minimum amount of data to be entered for an incident to be considered valid. If critical data, such as type of fire, is missing, the incident cannot be accurately analyzed.

Some fire departments are reporting all responses, while others are only reporting fire responses. In an attempt to develop a true picture of the role of fire department in our communities we have included information on all response types reported. Developing incident response data for a fire department can help in determining the use of limited resources and budget dollars.

Data submitted on fire cause determination was poor. *Wisconsin State Statute 165.55* requires the fire chief to investigate or cause to be investigated the cause, origin, and circumstances of every fire occurring in their jurisdiction. It is not apparent from the data submitted to the NFIRS database that this statutory requirement is being met because the cause, origin, and circumstances are not consistently being reported.

Attempts to analyze both civilian and firefighter injuries and fatalities are hampered by incomplete information. Many larger municipalities did not report any fire data for 2004, while other departments provided limited information. News reports alone would indicate a higher death and injury rate for civilians than the information currently available through the NFIRS database. Hopefully, with some training we will be able to improve statistical reporting by the fire departments. This would allow us to track problem areas and create a historical record. This would also allow us to provide public education for those problem areas.

A true assessment of the fire problem in Wisconsin will only be created when the information submitted is complete, as more fire departments begin entering their incident data.



Types of Calls

Fires accounted for 9,368 of the reported incidents, with 3,017 of those being classified as structure fires.

False alarms classified as malicious (1,178) made up only a small portion of the 8,716 false alarms reported. Unintentional alarms (3,956) accounted for the largest portion of false alarms, including 1,339 incidents of activation of smoke detectors with no fire. System malfunction accounted for another 3,160 false alarms. System malfunction alarms were frequently the result of environmental conditions such as steam or heat that were interpreted by the system as a fire or smoke condition.

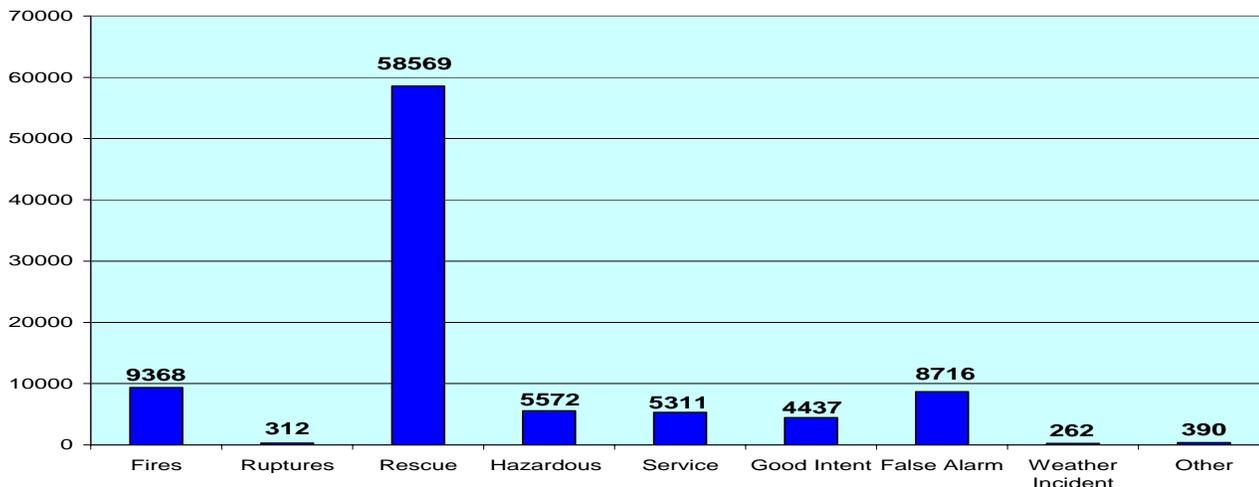
Another 5,311 incidents were reported as "service calls," which covered everything from smoke investigations (950) to assisting invalids (531) to solving animal problems (174).

Fire departments reported weather-related incidents such as lightning strikes without a fire (57), wind storms (53), and severe weather standby (92).

"Good intent" calls resulted in 2,217 incidents that were canceled in route and another 37 that were sent to the wrong location. In addition, "Good Intent" calls include fire departments being dispatched 280 times to controlled burns and 671 times for smoke investigations.

Finally notable among the variety of types of calls: Hazardous calls included 722 chemical spill responses, 919 gas leak investigations, and over 850 flammable liquids/oil spills.

Types of Fire Calls





FIRE INCIDENTS



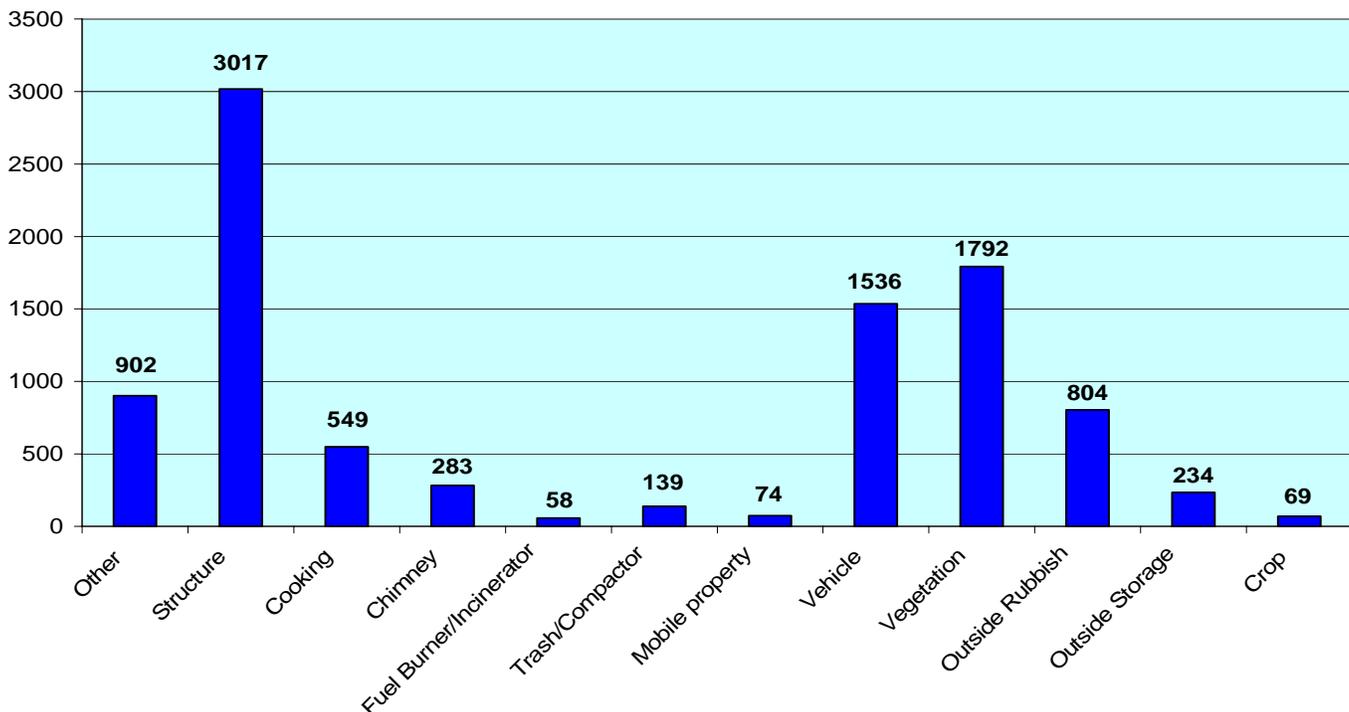
Structure and vegetation fires were the most common types reported, with structure fires being by far the largest number. Of those fire departments reporting structure fires, a total of 2,866 were indicated as building fires. Another 103 fires were reported in structures other than buildings; this classification would include buildings under construction.

Wildland fires accounted for 180 of the reported 1,792 vegetation fires. The majority of vegetation fires were classified as a combination brush and grass fires (656), with another 399 "natural vegetation" fires.

Passenger vehicles were the most common mobile property fires reported, with over 1,130. Freight trucks followed with 116 incidents. Eleven (11) boats, 3 aircraft, and 5 railroad cars were reported as fire incidents in 2004.

Twenty-three (23) landfill fires were reported, along with 348 outside rubbish fires. Dumpster fires accounted for 253 fires, with 180 additional fires not classified.

Types of Fires





FIRE CAUSE

Intentionally set fires (459) were the most commonly reported fire cause., **However, 8,194 incidents listed "other" as the cause of the fire.** Those fires indicated as intentionally set included 94 structure fires, 210 vegetation fires, 35 vehicle fires, and 93 outside rubbish or storage fires. In contrast, "natural causes" were attributed to 56 structure fires, 75 vegetation fires, 17 outside storage fires, and 7 vehicle fires.

In 2004, only 21 fires indicated the cause as "playing with a heat source." Of this number, 14 incidents were reported in structure fires, 6 in vegetation fires, and 1 in a vehicle fire.

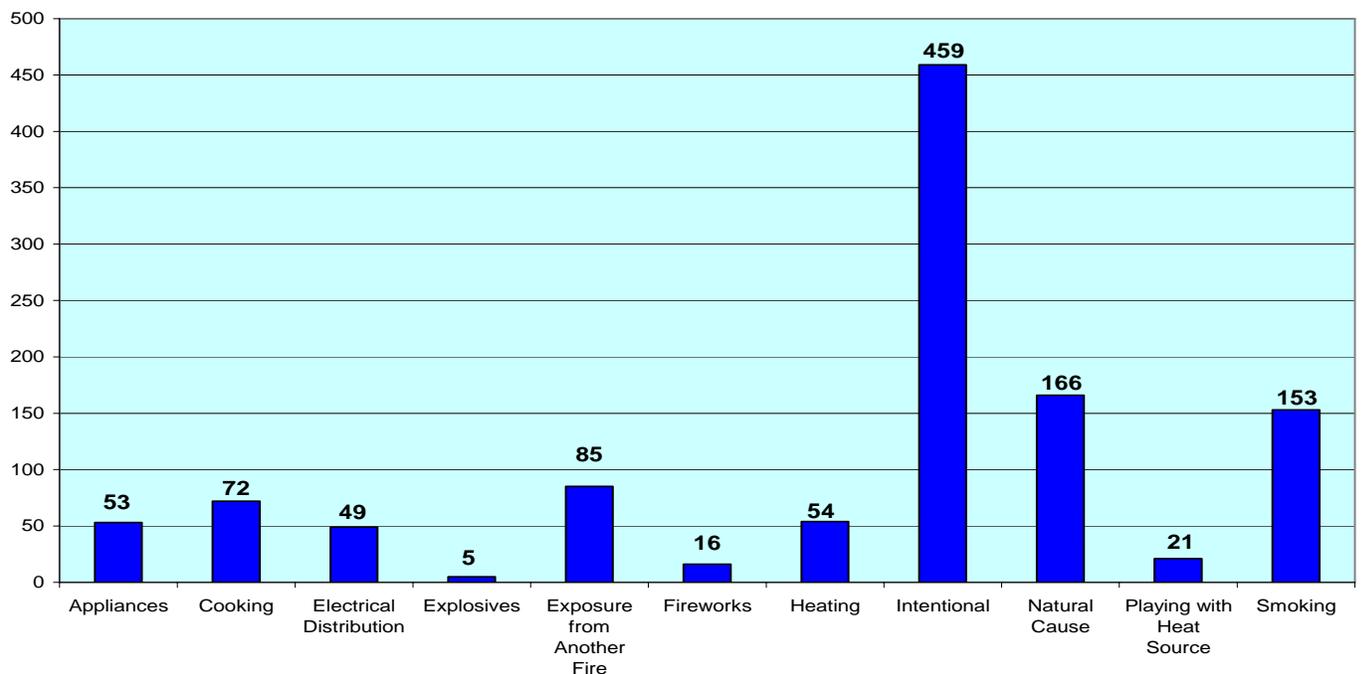


Smoking materials were identified as the cause in 153 incidents. Structure fires (79) were the most common among these, followed by vegetation fires (52), and vehicle fires (6). One crop fire was also blamed on smoking.



Fireworks were reported as the cause in 16 incidents; the majority involved vegetation.

Fire Cause



Structure Fires by Property Type

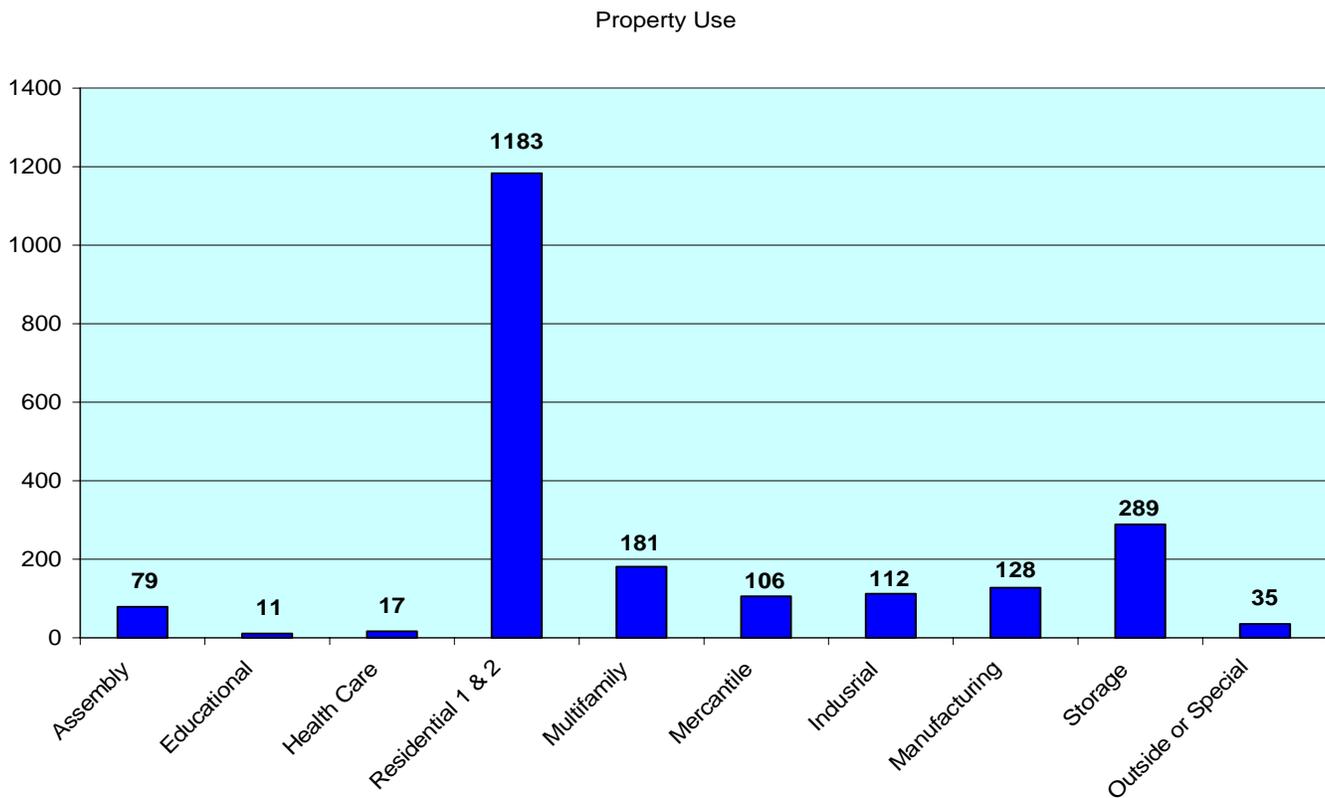
Of the 3,017 structure fires reported in Wisconsin for 2004, 876 of those structure fires were not classified by property use. Consequently, only 2,141 structure fires can be examined. Over half of the structure fires reported in 2004 occurred in 1- and 2-family homes (1,183).

Storage fires were the second most frequent structure fires (289), with 91 of those fires in outbuilding/shed type structures. Twenty-two (22) fires were reported in barns housing livestock, and 14 fires in vehicle storage buildings.

Seventy-nine (79) fires were reported in assembly occupancies with the greatest number (35) in restaurant/drinking establishments, and another 17 in bars. Three church fires were reported in 2004.

The fewest fires were reported in educational occupancies, with a total of 11. No fires were reported in daycare or preschool occupancies. Middle and high schools reported 7 total fires for 2004.

Finally, 181 fires were reported in multifamily residences. Of this total 3 were dormitory fires, 11 occurred in rooming houses, and 156 fires were in multifamily dwellings. An additional 236 structure fires were classified as "residential other."



STRUCTURE FIRE CAUSE

Of the 3,017 structure fires reported in 2004, only 451 cause determinations were reported. Over 2,540 fires listed "other" as the fire cause and another 20 blank reports were filed.

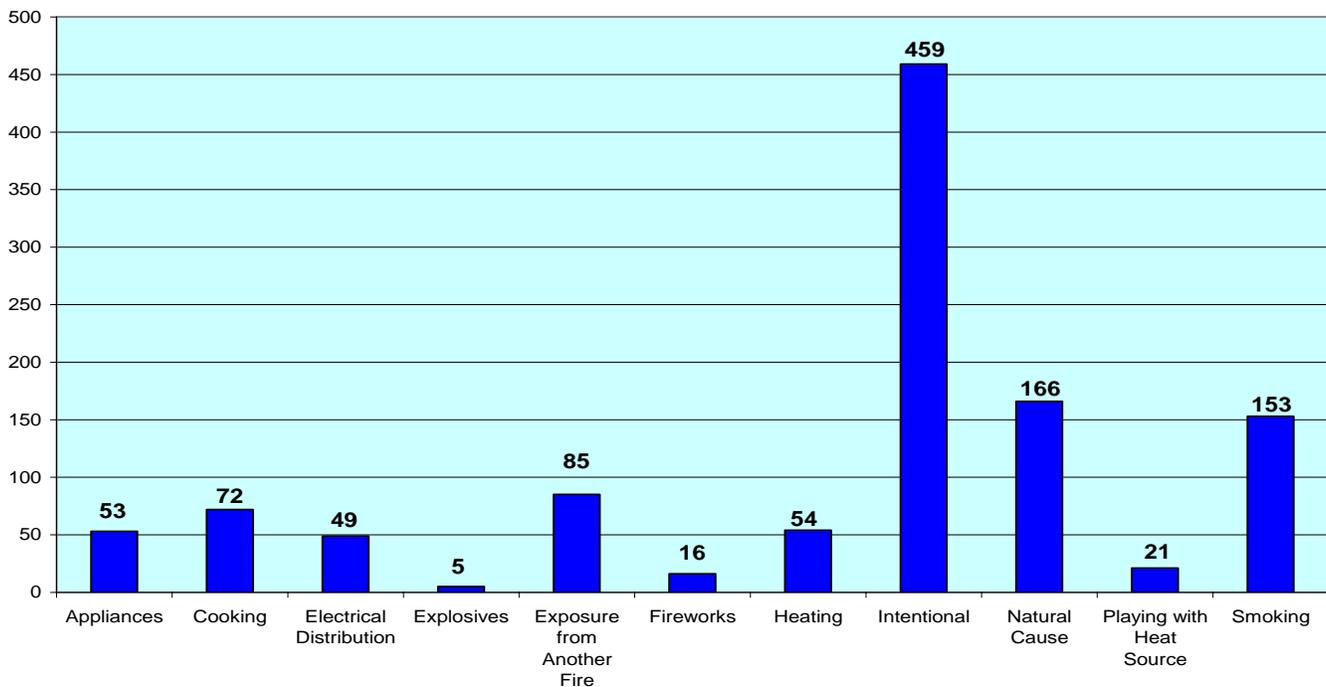
While 1,183 1- and 2-family fire incidents were reported, the causes of those fires were reported in only 235 instances. Smoking was the most frequent cause of 1- and 2-family fires with a total of 47, followed by intentionally-set fires with 29 reported. Twenty-five 1- and 2-family fires were the result of exposure to another fire. Cooking was attributed to 23 fire,s while playing with a heat source was responsible for 13 of the 1- and 2-family incidents.

In contrast, only 11 multifamily fires were attributed to smoking. Nine intentional multifamily fires were also reported. Fire cause was reported in only 49 of the reported 181 multifamily structure fires. No fires were reported for 2004 in a multifamily dwelling as the result of playing with a heat source.

Restaurants and bars had a reported 35 fires in 2004. Fire cause was reported in only 6 of those fires; smoking (3), cooking (1), appliances (1) and intentional (1).

Finally, it was determined that 3 fires in educational occupancies were intentionally set, 1 in an elementary school and 2 in high/middle schools.

Fire Cause



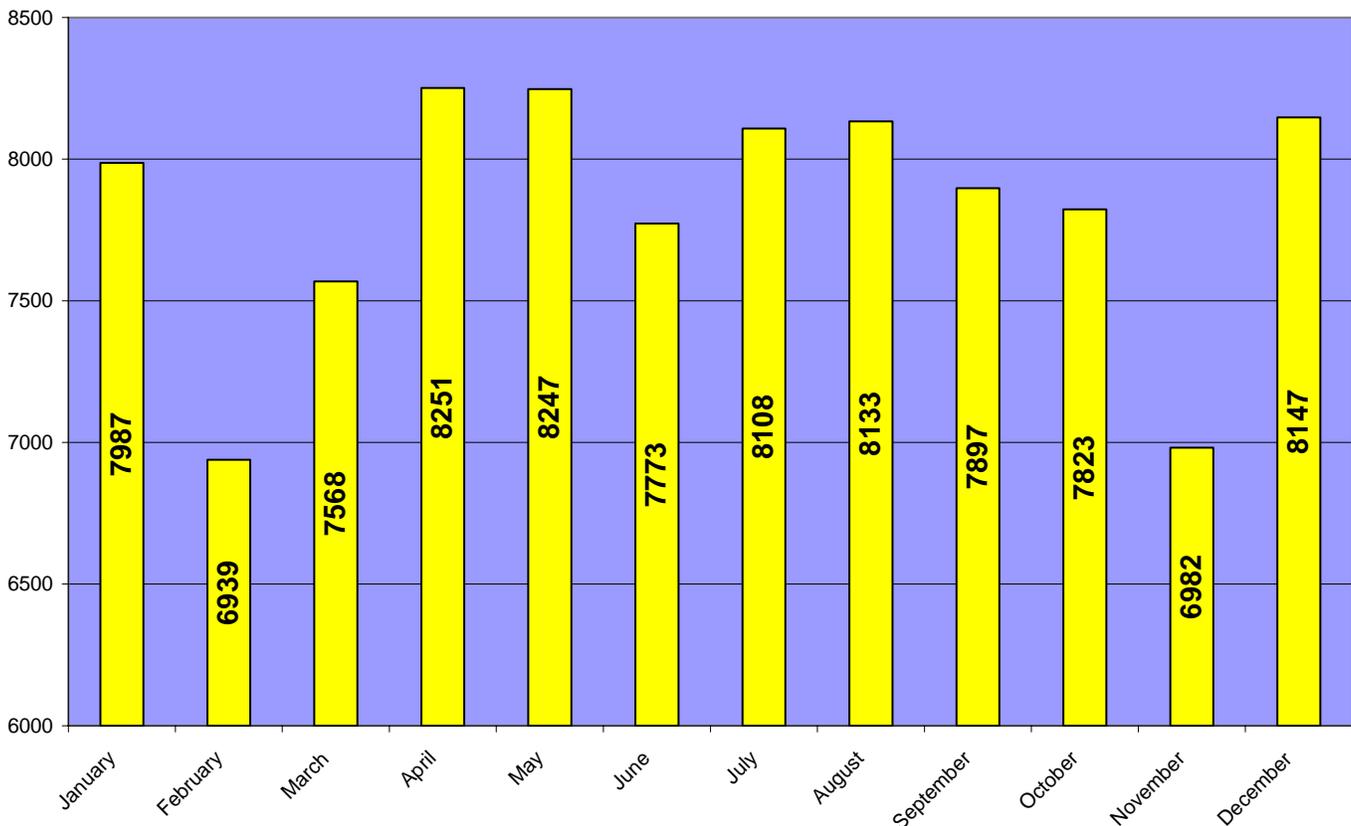
INCIDENTS BY MONTH

April and May were the busiest months reported in 2004 for fire departments, with 8,251 and 8,247 incidents, respectively. In contrast, February (6,939) and November (6,982) saw the fewest calls.

In April there were 313 structure fires, 140 vehicle fires, and over 790 vegetation fires reported. EMS-related incidents numbered 4,584, including 387 vehicle accidents with injury, and 54 extrication responses. May saw 258 structure fires, and 144 vehicle fires, including 4 water craft and 2 aircraft fires. Only 184 vegetation fires were reported for May. Over 5,300 EMS incidents were reported in May, with 61 calls for extrication and 510 vehicle accidents with injuries.

The fewest structure fires were reported in August (171), with January having the most structure fires (343). Passenger vehicle fires were highest in January (115) and September (114). Overall, April had the most fires of all types (1,604), and February the fewest fires (617). In contrast, November recorded the fewest EMS calls with 4,401 and August the most with 5,228.

Fires by Month



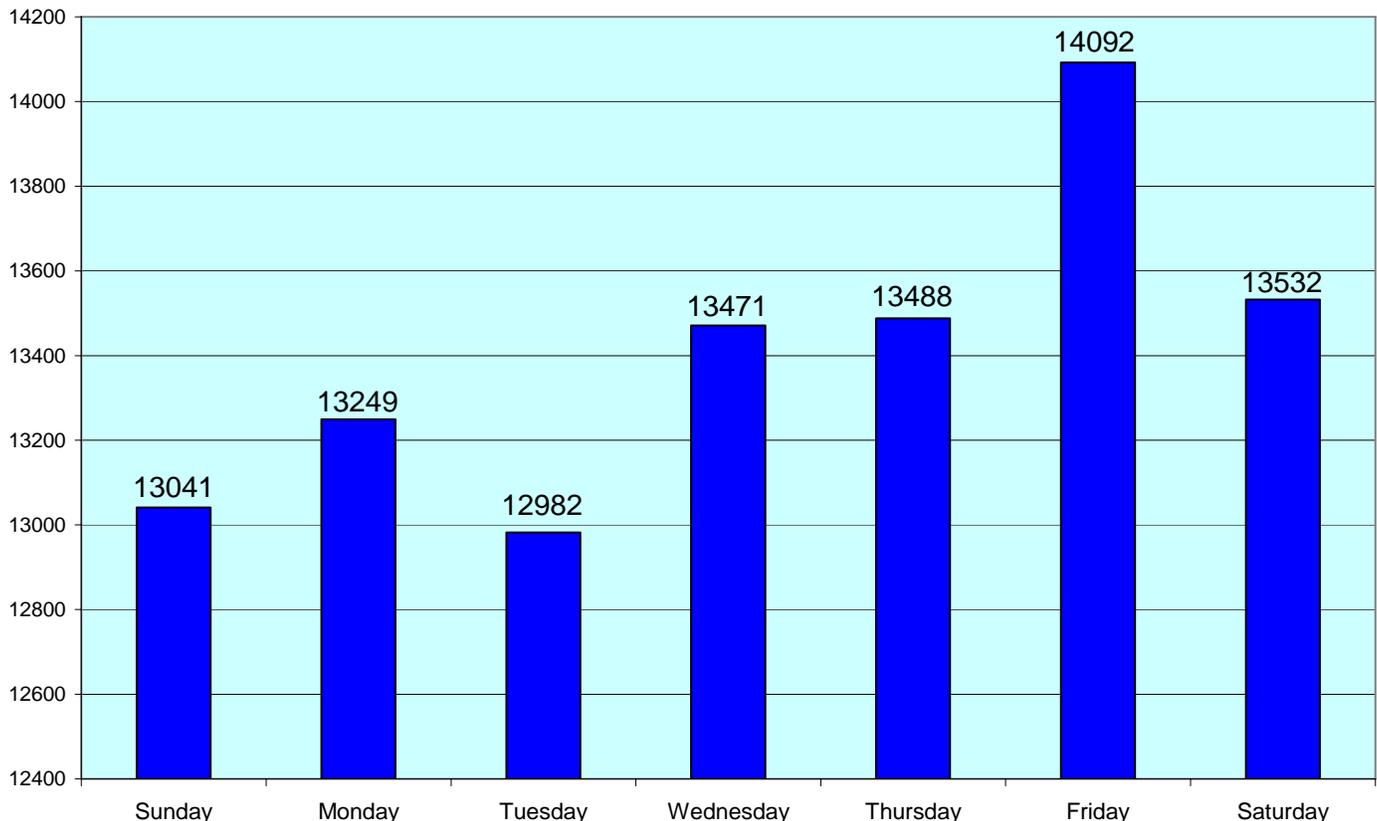
INCIDENTS BY DAY OF THE WEEK

When 2004 reported incident data was examined by the days of the week, it indicated a fairly even pattern of total calls, from 12,982 on Tuesdays to 14,092 on Fridays. However, some trends did appear on weekends, particularly with an increase in “unauthorized burning” and outdoor rubbish fires. There were slightly more structure fires on Saturday and Sunday. Wednesday displayed the fewest reported structure fires.

Vehicle accidents were highest on Friday (955) and Saturday (911), with an additional 239 vehicle extrications on those two days. Finally, police requests for fire department assistance were greatest on Friday.



Fires by Day



FIRES BY TIME OF DAY

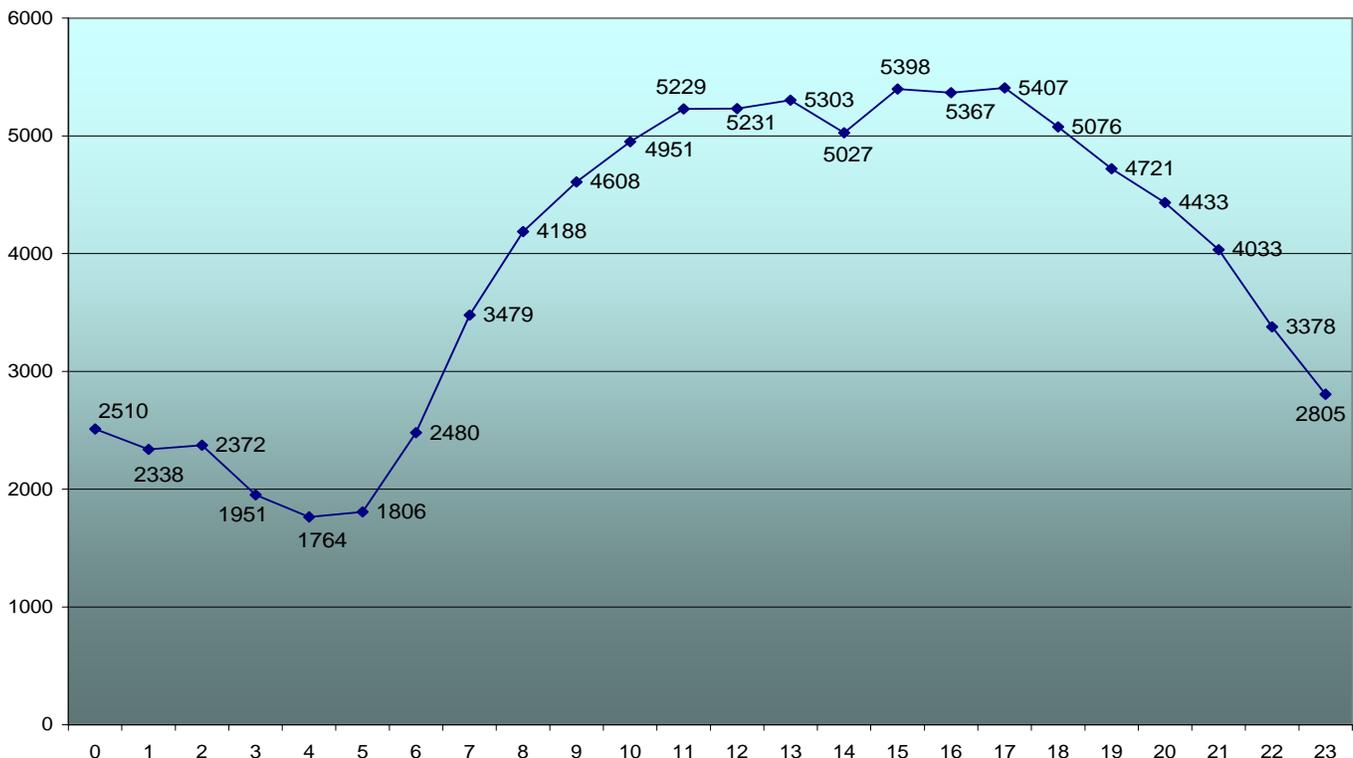
When tracking fire incidents by time of day, patterns do emerge. For example, cooking fires were twice as likely between the hours of 4 and 6 p.m. than any other two-hour block of time. Outdoor rubbish fires occurred more often from 7 to 9 p.m. However, vegetation fires were more frequent from 1 to 4 p.m.

Vehicle fires increased during the evening commuting time from 4 to 7 p.m., with a substantial drop off after 7 p.m. A corresponding, but less pronounced, increase was also seen during the morning commute time.

Structure fires remained fairly even over time, with a slight decrease between the hours of 2 and 7 a.m. Chimney fires also reflected a fairly even pattern, with a decrease in the very early morning hours and to a jump in frequency around 6 a.m.

Overall fires were less likely to happen in 2004 between 2 and 7 a.m., with no reported "crop" fires from 2 to 10 a.m.

Fires by Hour





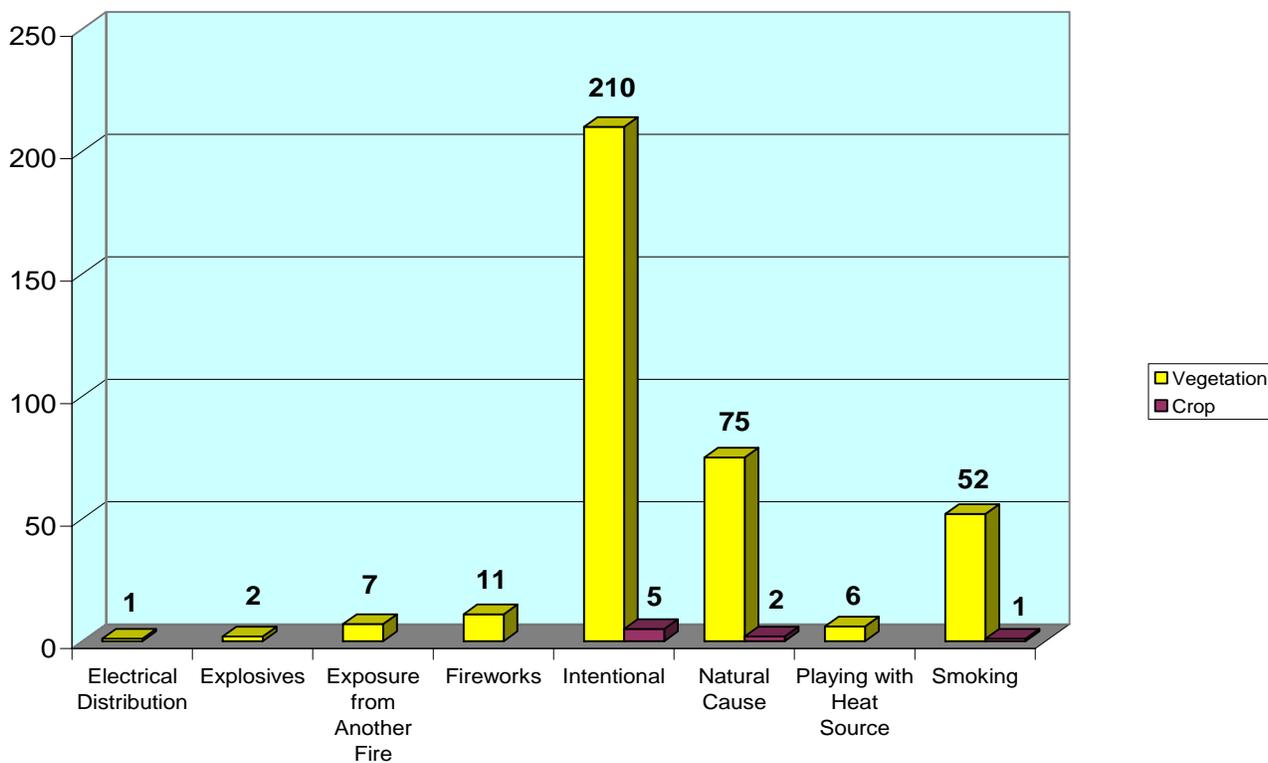
VEGETATION FIRE CAUSE



A total of 1792 vegetation fires were reported in 2004. Of this number, a cause was reported in only 372 of the fires. The vast majority of those for which a cause was reported (215) were found to have been intentionally set, including 5 crop fires.



Cause of Vegetation fires



STRUCTURE AND VEGETATION FIRES BY MONTH

April in Wisconsin and Spring was in the air -apparently so was the smoke from almost 800 grass, brush and wildland fires. For the majority of April vegetation fires, no cause was reported (670). Smoking was blamed for 19 fires, while natural causes accounted for 24 fires. Seventy were found to be intentional. We can assume that the small number (10) of vegetation fires in January and February is due to snow cover. Of the two February vegetative fires where a cause was determined, one was due to smoking and the other was intentional.

The 323 structure fires reported for April were only slightly fewer than the high of 351 reported for January. Fourteen of the April structure fires were the result of exposure to another fire, while only 5 of the January fires were due to exposure. Cooking was the cause of 7 vegetation fires in August, while fireworks were responsible for 3 vegetation fires in July.



Structure and Vegetation fires by Month

